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EST 2077

EX
SERIES
ALMOST READY
TO FLY

SKYWINDER™

FLYING MODEL ROCKET KIT INSTRUCTIONS

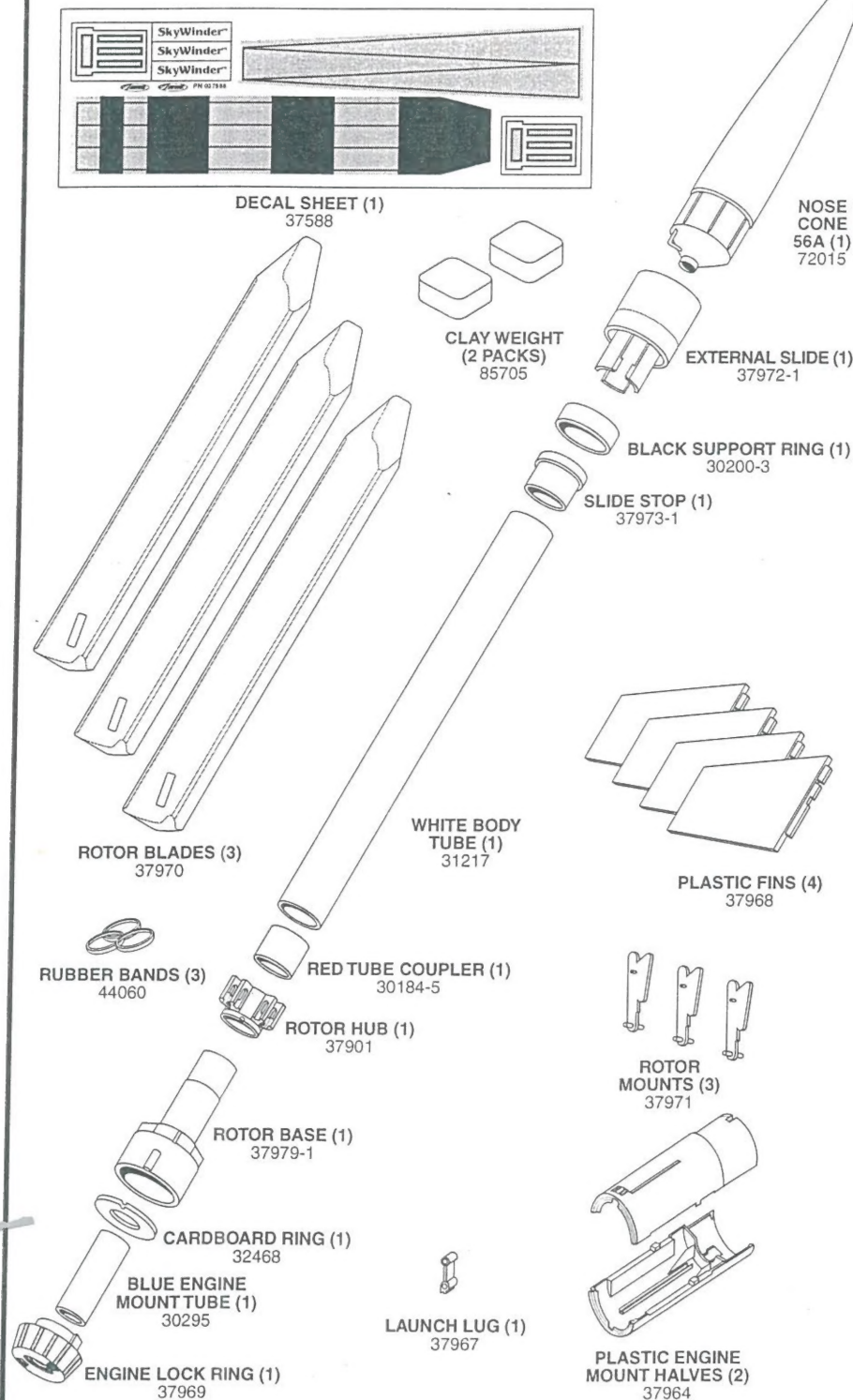
MATERIALS REQUIRED:

PENCIL, RULER, PAPER TOWEL OR RAG, WHITE OR YELLOW GLUE, SANDPAPER,
TUBE-TYPE PLASTIC CEMENT, SCISSORS, HOBBY KNIFE

ALL GLUED AREAS ARE SHADED IN GRAY

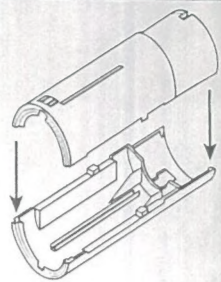
BE SURE TO READ ALL INSTRUCTIONS, TEST FIT ALL PARTS, AND SAND IF NECESSARY BEFORE GLUING.

PARTS LAYOUT



1.

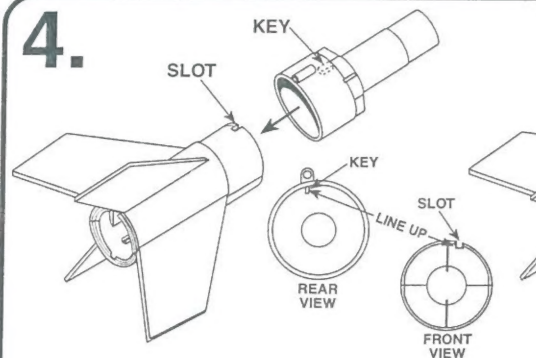
A. Test fit the plastic engine mount halves together. Use a hobby knife to carefully remove any excess plastic (flash) that may interfere with a good fit.



B. Cement the two plastic engine mount halves together.

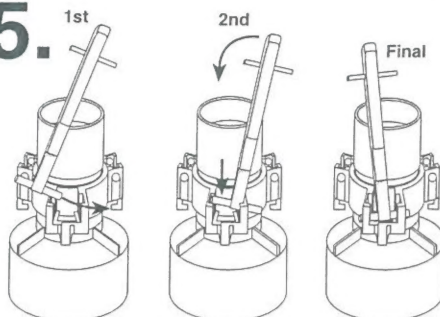
C. Snap the launch lug into the lower launch area on the engine. Let assembly dry.

4.



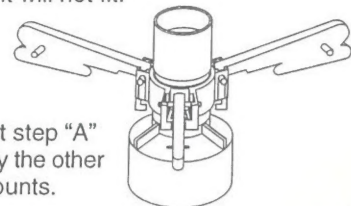
A. Test fit the rotor base onto the shoulder of the fin assembly. How the "key" in the base fits into the slot in the fin. Apply plastic cement around the fin assembly shoulder and slide back onto fin assembly shoulder.

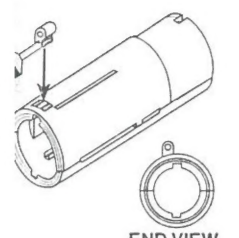
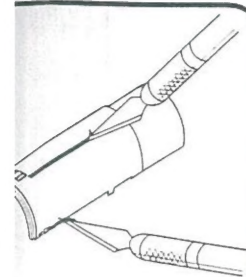
5.



A. Slide the right side pin of a rotor mount into the right side of one of the mount slots on the rotor hub. Gently push the mount to the right and slip the left pin into its slot. DO NOT FORCE THE MOUNTS INTO POSITION! If the mount is upside down, it will not fit.

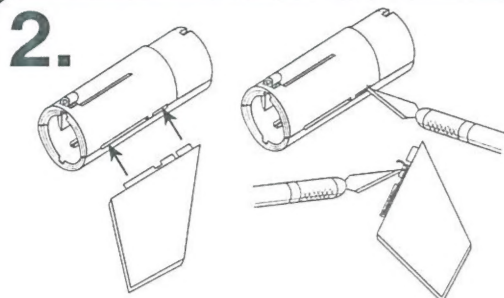
B. Repeat step "A" to apply the other two mounts.





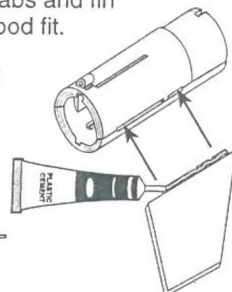
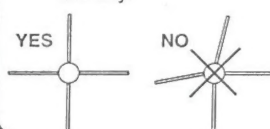
ggs apart and cement
g into the recessed
mount as shown.
thoroughly.

2.

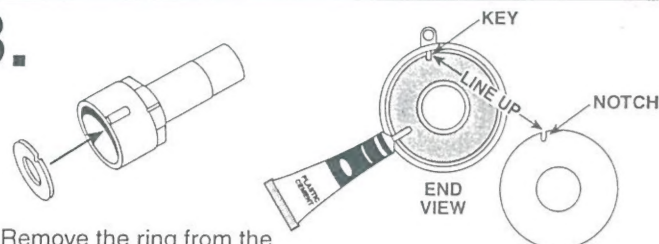


A. Test fit all four fins into the four slots in the engine mount. You may need to scrape excess plastic from the fin tabs and fin slots to achieve a good fit.

B. Apply plastic cement to the fin tabs as shown and reinsert. Let dry.

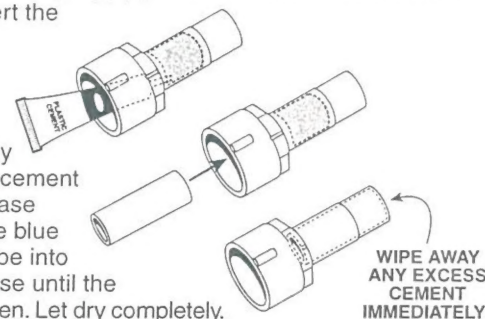


3.

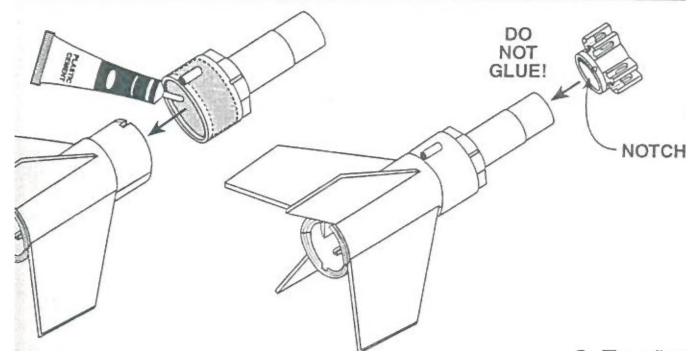


A. Remove the ring from the card. Test fit the cardboard ring into the rear of the rotor base; note that the notch in the ring fits over the "key" inside the rotor base. Remove the ring, apply plastic cement inside the rotor base, and reinsert the cardboard ring.

B. Test fit, then apply a band of plastic cement inside the rotor base tube and slide the blue engine mount tube into the rear of the base until the front edges are even. Let dry completely.



WIPE AWAY ANY EXCESS CEMENT IMMEDIATELY!

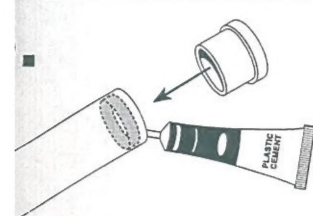
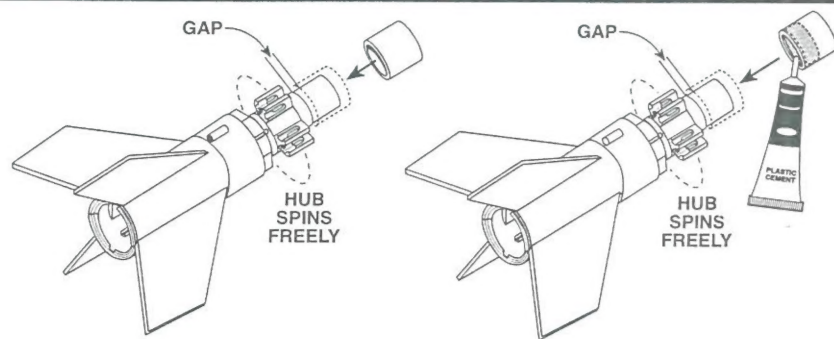


assembly. Note
n assembly
of the base as
Let dry.

B. Slide the rotor hub onto the front of the rotor base with the notched end facing the fins. DO NOT GLUE!

C. Test fit the red tube coupler onto the front of the rotor base. Leave a slight gap between the coupler and the hub, and check that the hub still spins freely. If not, use fine grain sandpaper to sand the inside of the hub until it spins freely.

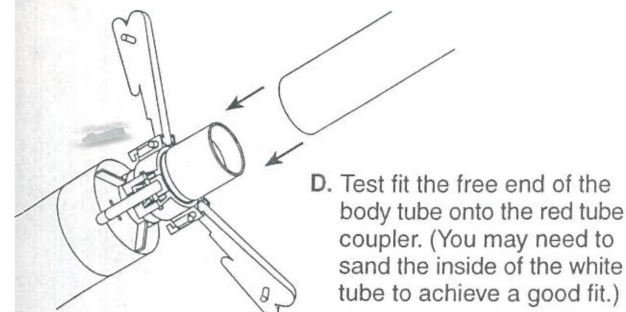
D. Apply a thin ring of plastic cement inside the tube coupler and slide back into position. BEFORE CEMENT DRIES: BE SURE YOU HAVE LEFT SMALL GAP AND THAT THE HUB SPINS FREELY! Let dry.



Apply plastic cement just
inside one end of the body
tube and insert the slide stop
as shown. Let dry.

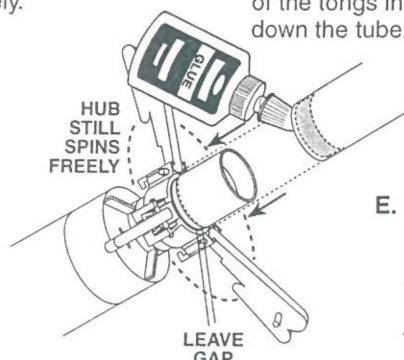
B. Apply a ring of plastic cement around the inside of the black support ring and slide the ring onto the tongs of the external slide until the edge of the ring is even with the end of the tongs. Let dry completely.

C. Check that the cement around the slide stop is completely dry, and slide the external slide up the body tube as shown until it hits the slide stop. DO NOT GLUE!
NOTE: You may need to remove excess plastic from the inside of the tongs in order for the external slide to move smoothly down the tube.



D. Test fit the free end of the body tube onto the red tube coupler. (You may need to sand the inside of the white tube to achieve a good fit.)

E. Remove tube, apply a ring of white or yellow glue just inside the free end of the body tube, and in one continuous motion slide the body tube over the coupler until their edges are even. Be careful not to slide the body tube too far - THE HUB MUST SPIN FREELY! Let dry.



7.

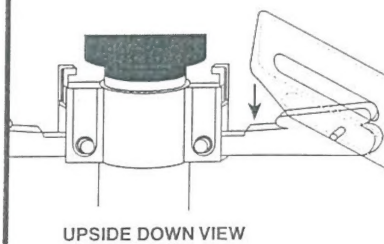
- A. Roll all of the clay weight into "snakes" and insert them into the nose cone. Use a pencil to firmly press the clay into the tip of the nose cone.

PRESS FIRMLY INTO NOSE CONE TIP

CUT OFF

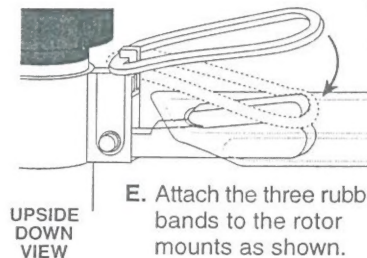
- B. Use a hobby knife to cut the plastic loop off the shoulder of the nose cone.

- C. Apply plastic cement to the shoulder of the nose cone, insert it into the front of the external slide as shown. IMMEDIATELY WIPE AWAY ANY EXCESS CEMENT!



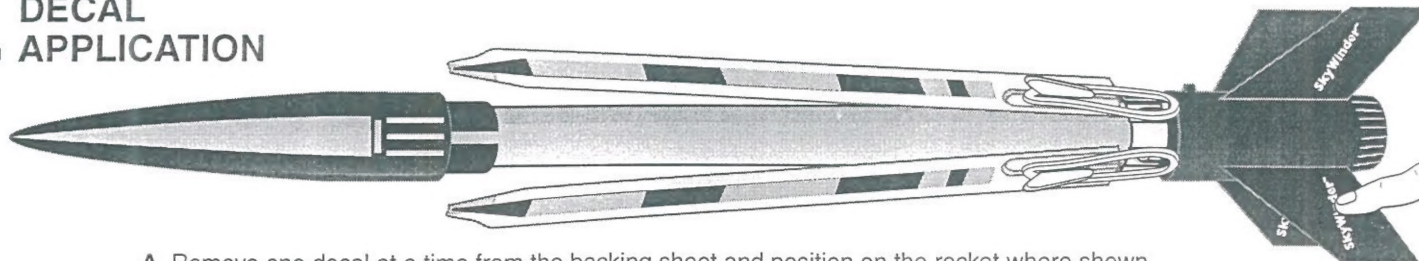
NOTE: ROTOR BLADES CURVE AROUND BODY TUBE

- D. Snap the slots in the rotor blades over the tops of the rotor mounts as shown.



- E. Attach the three rubber bands to the rotor mounts as shown.

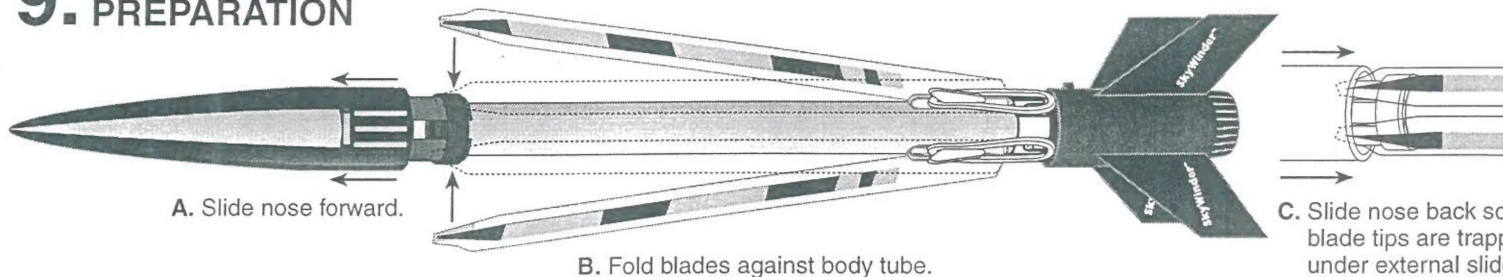
8. DECAL APPLICATION



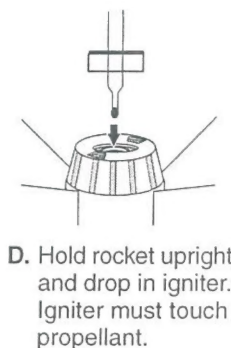
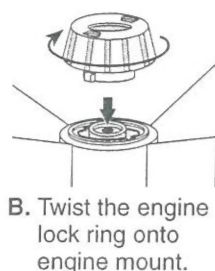
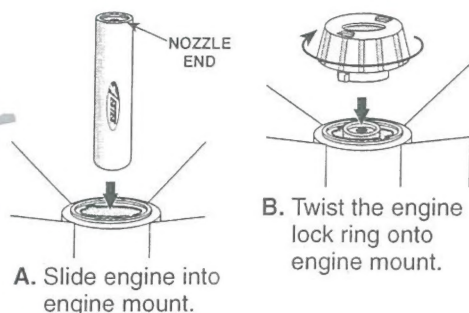
- A. Remove one decal at a time from the backing sheet and position on the rocket where shown. Once decal is in place, rub with finger to remove air bubbles and secure to rocket body.

9. FLIGHT PREPARATION

NOTE: RUBBER BANDS MUST BE IN PLACE.



10. ENGINE PREPARATION



LAUNCH SUPPLIES

To launch your rocket, you will need the following:

- Launch Pad (Estes Porta-Pad® II)
- Launch Controller (Estes Electron Beam®)
- Recommended Estes Engines: B4-2 (first flight), B6-2, C5-3, C6-3

Use a B4-2 for your first flight to become familiar with your rocket's flight pattern.

Use only Estes products to launch this rocket.

PROJECTED ALTITUDES

ENGINE	FEET	METERS
B4-2	210	64
B6-2	227	69
C5-3	531	162
C6-3	501	153

TIPS FOR FLYING YOUR ROCKET

- Choose a large field away from power lines, buildings, tall trees, and low flying aircraft. Try to find a field at least 250 feet (76 meters) square. The larger the launch area, the better your chance of recovering your rocket.
- Launch area must be free of dry weeds and brown grass.
- Launch only during calm weather with little or no wind and good visibility. The SkyWinder™ blades extend at apogee and the rocket will helicopter to the ground. Be prepared! The SkyWinder™ may travel long distances.
- Always follow the National Association of Rocketry (NAR) MODEL ROCKETRY SAFETY CODE while participating in any model rocketry activities. The safety code is enclosed with this kit.

COUNTDOWN AND LAUNCH

10... Safety key must not be in launch controller. The safety cap with safety key attached should already be on the launch rod.

9... Remove safety cap from launch rod, slide launch lugs over rod. Make sure rocket slides freely and micro-clips are clean for good electrical contact.

8... Attach micro-clips to the igniter wires. Arrange the micro-clips so they do not touch each other or the metal blast deflector. Attach micro-clips as close to protective tape on igniter as possible.

7... Move everyone back from your rocket as far as launch wire will permit (at least 15 feet - 5 meters).

6... Insert safety key to arm the launch controller.

5... Start audible countdown.

4...3...2...1.....

LAUNCH!

Push and hold button until engine ignites.

For safety, immediately remove safety key from launch controller and replace safety cap on launch rod.

MISFIRES

When an ignition failure occurs, **remove the safety key** from the launch control system and **wait one minute before approaching the rocket**. Remove the expended igniter from the engine and install a new one. Be certain the coated tip is in direct contact with the engine propellant. Broken or chipped coating will not affect the performance of the igniter. Reinstall the igniter plug as illustrated previously. Repeat the countdown and launch procedure.

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